GRUMMAN plane news

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Bierwirth sees continued growth in 1974 despite ailing economy

(In the two years that Jack Bierwirth has been associated with Grumman Corporation, first as Vice President-Finance and then as President (he has been a director since 1971), he has spoken out on a number of subjects, including the organization's internal operations and its plans for the future. Recently, Plane News again chatted with Jack Bierwirth and asked him to review 1973 and, wherever possible, forecast what lies ahead in '74. The following article resulted from that interview.)

PLANE NEWS: In June 1973 you said that because of the F-14 and the some $205 million in losses that we absorbed, "financial returns for 1973 would be difficult to follow and interpret." You said then that this will mean that "on the surface we will be reporting good earnings; under the surface, however, this struggle to hold down costs and achieve our goals will be going on. Success with this under-the-surface struggle will bring it all home and make this year's good financial reports into promises of even better days to come." We reported earnings of $4.15 a share in 1973 as compared to a loss of $10.26 a share the year before. How do you see your June statement now, and what does the future look like to you?

JACK BIERWIRTH: I think that the first thing you have to do is go back to March of 1973. If you look at it from a perspective of the days immediately prior to the settlement with the Navy and try to remember how it felt at Grumman, you can see how far we have come. In those days, we were all looking at a choice between a series of losses that would be much heavier than Grumman could stand, or a lawsuit with our major customer which would put every contract that we had with the U.S. Government in question. The main accomplishment of settling that potential lawsuit was to give job security back to all of us at Grumman—but that, too, would have meaning only if we could accomplish a snapback from our rather precarious position. The settlement gave us a chance as a company to survive and rebuild ourselves.

There's an interesting story that goes with that settlement. I was talking to Clint Towl on the telephone one Sunday morning—he was down in Stuart, Florida—and he told me that he had spent the previous day on the end of a dock with a fishing pole, not paying much attention whether he had any lure on the end of his line or not, just thinking about the problem—the sort that a person does when he thinks "What if this happens," or "What if that happens," "Then what do we do," and so forth. And he came up with the conclusion that we just had to settle the F-14 problem because a lawsuit wasn't the answer. There wasn't any way that we could win. Even if we won the court case, we could spend so much time winning it, that in the very act of winning, we could lose our business.

As a result of that day at the end of the dock, he suggested that I call Navy Secretary John Warner

and ask if he would come to Long Island to see if there wasn't some way that we could work out our differences. He did come to Bethpage. And we approached it on this basis: We'll take all the loss we can stand if we can just get the problem behind us. So, I ended up talking to Secretary Warner in my office that day in March 1973 while Clint Towl held a board meeting in his office. The $205 million loss —which later turned out to be, in fact, $220 million —was and still is a tremendous financial burden for this company to have accepted. But it was still better

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Grumman Houston bidding on Shuttle support contract

With the attention of the National Aeronautics and Space Administration fixed these days on the Space Shuttle, interest in recent weeks at the Johnson Space Center (JSC) in Houston has been focused on proposals for the new Space Shuttle Engineering and Operations Support contract. Among the bidders is Grumman Houston Corporation—formed last October as a wholly owned subsidiary of Grumman Aerospace Corporation—which views the proposed support effort as a Number One priority item for the Houston organization for some time to come.

According to Will Bischoff, of Product Engineering who will direct the program for Grumman along with Grumman Houston President Jack Buxton, the proposal is for a five-year-and-nine-month program and includes at this point supporting NASA JSC in the design, development, engineering and operations aspects of the Space Shuttle program.

Not to be confused with Grumman's Space Shuttle engineering support contract and Orbiter Wing subcontract with Rockwell International, or Grumman's prime contract with JSC to design and build the Shuttle Training Aircraft (STA), the new proposed support contract has been tailored to support the efforts of NASA at the Johnson Space Center.

Line-up of talent

Grumman brings with its proposal a line-up of experienced talent, a current manned-spacecraft and aircraft technology base, the expertise gained from previous aircraft and spacecraft programs, and experience developed on other space shuttle-related projects. Intitial employment under the support contract includes a basic cadre of qualified Grumman technical management personnel with an average of 18 years' experience who will move from the Bethpage area to Houston. When the program is at its peak during mid-1977, total employment will reach about 350 people, many of whom will be hired in Houston.

Grumman Aerospace Chairman and President Joe Gavin said in his letter of introduction to this contract proposal: "We believe the Space Shuttle program is the keystone of the future United States efforts. We have expressed our support of this program in the past, as evidenced by our participation in the initial phases of Shuttle definition and as a principal subcontractor in its design and production."

On January 16, the Grumman Aerospace Board of Directors adopted a resolution to support the Houston subsidiary with all the necessary people, plant, equipment and financing to meet the requirements of this program. "Personnel who worked closely with NASA throughout the Apollo LM program and in various aspects of Grumman's Space Shuttle activity have been selected for assignment to this program," Gavin continues. "Jack Buxton, the president of our Houston Corporation, is well known . . . for his leadership in previous NASA programs as is Will Bischoff, who we propose to lead this activity."

Five principal areas

Grumman's resources at Houston—located "across the street" from JSC—were originally established for the LM program. President Jack Buxton, who has been with the company over 33 years and has directed the Houston activities for more than 12 years, is also a vice president of Grumman Aerospace. Will Bischoff, who has spent the past 10 years in space activities, was deputy program manager for engineering on the Apollo LM program and is now engineering manager on the Space Shuttle Wing structure subsystem contract.

The Grumman Space Shuttle support proposal covers five principal areas:

- Engineering systems analysis

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GAA looks for big sports to support member drive

March can come in like a lamb, but Mike Cherry who's heading the annual GAA membership drive this year hopes it comes in like a lion and keeps on roaring until the drive ends at the end of the month.

Several departments have already stormed the GAA office in Plant 30 with their 100 percent support. A buck doesn't go far these days but the dollar you contribute to the GAA program can go a long way for you.

The GAA program doesn't just cater to the athletically inclined—your dollar is also put into subsidizing all club activities. Interested in coin collecting, model railroading, chess? GAA supports those functions through financial and administrative support. Travel? Every year the GAA arranges tours at discount group prices—not to mention the various ski trips this past winter. Camping, flowers, checkers? You name it. It's available through the assistance of GAA, and if it's not, just call extension 2133 and the GAA staff will be happy to help you start a club or activity.

The GAA also runs all athletic tournaments, ranging from bocce to golf and chess. Over 1,000 men and women golfers participate each year in GAA-sanctioned leagues. GAA also offers assistance to softball leagues, bowling, basketball, and various other lunchtime activities. Varsity teams however are totally supported by the company funds.

Be a sport and give a buck—you can be a winner in more ways than one. At the end of the drive, there will be a drawing for 15 $100 U. S. Savings Bonds and 50 sets of Grumman glasses. That's scheduled for April 5. So hurry, buy a GAA ticket, fill out the stub and return it to your department administrator so that it can be included in the prize drawing.

Passing the buck. **Joe Gavin, Grumman Aerospace Chairman and President, happily gives up a dollar bill to Mike Cherry of GAA to become the first GAA supporter in this year's Grumman Athletic Association membership drive. Mike, who's heading the drive again this year, says it's one down—23,000 to go!**
(Photo by Marie Trimborn)

Looking ahead to '76 Montreal Olympics

Got a feeling '76 is going to be a good year? In addition to being the year of our country's bicentennial anniversary, 1976 is also the year of the 21st Olympiad International Summer Olympics games to be held in Montreal, Canada.

Our neighbors in the north recommend that if you are planning to attend the summer games to make your hotel reservations early. A list of hotels, motels, and guest houses in the Montreal area is available — free-of-charge —by mailing your name and address to Joseph B. Brown & Co., 640 Cathcart St., Suite 101, Montreal III, Quebec.

Ad note . . .

Sorry that advertisements are still not possible in the regular edition of Plane News . . . but we expect to deliver a four-page ad supplement through ESO within two weeks. And retirees will have the ads mailed through GAA with their regular newsletter.

They're counting them up

You're always the winner when it comes to suggesting better and safer ways to do your job—and in more ways than one. Ask Al Beyerlein (R) and Adrian Hersey (C). They were both recently presented with diamond project sterling pins by Tom Johnson, Vice President-Manufacturing Operations, for attaining 25 approved suggestions.

Beyerlein of Major Assembly in Plant 1 has amassed a total of 27 $3 award certificates and $725 in U. S. Savings Bonds, not to mention the 10 more savings bond awards pending.

Working in Plant 1 on the Fuselage Assembly, Hersey has accumulated 25 approved suggestions earning him a total of 46 $3 award certificates and $1,500 in U. S. Savings Bonds with 17 more savings bond awards awaiting approval. Not bad for suggesting a better way!

Establish dial-a-ride service for Bethpage interplant travel

It can be a nuisance hopping around from plant to plant in the Bethpage complex—especially if you're in a car pool or taking the bus to work. And even if you do have a car, the best way to get the least mileage out of a gallon of gasoline is to hop about the plants in stop-and-go traffic. But there's a way out for everybody—a dial-a-ride bus service which was initiated March 4 for interplant travel in the Bethpage complex.

The way it works is rather simple. When you have a business meeting in another plant you give a call to your designated coordinator at least one hour before departure and say where you want to go and what time you'd like to return. A bus or station wagon will be dispatched to pick you up at the main lobby of your plant and drop you off at your destination. Tom Lahey, who heads the emergency transportation effort, recommends that you schedule your trips on the hour or half-hour.

Bus service will be available from 8 a.m. to 4:30 p.m.

In addition to the new dial-a-ride interplant service, Project Hitchhike has been initiated. If you still find it necessary to use your own car between plants, call your coordinator before your trip. There might be someone going your way whom you can accommodate.

Dial-a-ride

For members of	Dial-a-ride Coordinator	Ext.
Corporate Staff (GAC)	Marianne Schiralli	3537
Customer Requirements	Helen Lanning	2922
Grumman Corporation Bldg.	Jane Dutine	7780
Manufacturing Operation	Carolyn Bottcher	87348
Resources	Henrietta Walsh (Material)	84589
	Chris Schaefer	7398
Program Management (A/C)	Gail Hall	1126
Program Management Space	Stephanie Albinski	7666
Operations Quality	Loretta Scott	2058
Security-Personnel Serv.	Helene Stone	7076
Tech. Ops./Advanced System	Marjorie Iannone	9492

Three hit big bond jackpot in $16,225 suggestion payoff

January turned out to be a lucky month for a number of persons in Grumman Aerospace who had made suggestions that saved the company time and money. During the month, $16,225 in U.S. Savings Bonds were awarded through the Motivational Program Office.

The three top money earners were Ralph Classen of Parts Control, Plant 1, who earned a $1,550 bond; Frank Zahra of Pre-Flight, Plant 7, earned a $1,225 bond; and Ernest Maines of Flight Avionics, Plant 7, a $1,025 bond.

Ralph Classen, a storekeeper who has spent his nine years at Grumman in the Parts Control department, suggested using an automatic IBM system to supply and retrieve cutting tools. The previous method was to pull cards as needed and run them through a machine. "A lot of handwritten work was done and it took a lot of time to write the numbers down," says Ralph. Ralph is still surprised at becoming a top winner. "I can't get over it; I knew that I would get something, but I didn't know it would be this great." When asked how he was going to spend his money, Ralph, a father of four, says his use of the award would be to remodel his house.

Frank J. Zahra, a Grumman veteran of 19 years, earned his $1,225 savings bond by suggesting a tool for removing the F-14 main landing gear cylinder without removing the entire gear. "It took 48 hours to remove and install the entire gear before, now it takes only 10 hours," says Frank. The Project Sterling award is not a first for Frank; he has won eight others. Frank has two plans for his ninth bond; he would like to buy a boat to fish for scallops and also take a trip to Las Vegas.

Ernest G. Maines, senior test technician, has won four project Sterling awards and a flight safety award. Ernest suggested adding locking devices to the F-14 throttle quadrant to prevent adjustment of idle switches. Now there is an elimination of the time consuming task of removing the throttle quadrant to re-rig the control level. Ernest has plans to save his bond for a "rainy day."

Other winners of idea awards are:

$850 - Joseph Kasten, Fuse. Assembly, and Edward J. Smyth, Sub. Assembly, Pl. 1.

$625 - Vito R. La Rocca, Meas. Stds. Lab., Pl. 6.

$600 - Christian W. Clamser, Research, Pl. 5.

$525 - Frank J. Brown, Sub. Assem. Maj., Pl. 1; George J. Maune, Templates, Pl. 16.

$425 - Gloria T. Moore, Critical Material Control, Pl. 21.

$400 - George E. Bennett, Wire Prep., Pl. 5.

$350 - John Zator, Fuse Joining, Pl. 1; Arthur F. Gross, Final Install., Pl. 6.

$325 - Gustave L. Hudo, Final Assy, Pl. 3.

$300 - Joseph Ridulfo, Flt. Develop., Pl. 7.

$375 - Edward J. Javurek, Final Assembly, and Edward C. Haroff, Tool Maint./Rep., Pl. 1.

$250 - Sam Longo and Mike Kazura, Final Assy., Pl. 1.

$225 - James J. Harper, Machine Shop, Pl. 56.

$200 - Wayne Dombroski, EBW-Machining, Pl. 2; Stephen Saletros, Chem. Engg., Pl. 1.

$175 - Ignazio Baiamonte, Pre-Flight, Pl. 7; Anna Sinicropi and Emma M. Gunn, Reqmts. Plnng., Pl. 30.

$150 - Richard Bu'la, Pre-Flight, Pl. 7; Paul C. Stein, Avionics Inst., Pl. 6; Raymond F. Amendola, Edward Piengensky and Louis Polidora, Drop Hammer, Pl. 2; Gloria T. Moore and Veronica Clark of Critical Mat. Cont., Pl. 21.

$100 - Salvatore Tranchina, Clement Joie, Jr., both of Sub. Assem. MJ., Pl. 1; Harold Naperstak, Fuse-Sub. Assem., Pl. 1; John A. Morrow, Flt Avionics, Pl. 7; Kenneth White, Inventory Control, Pl. 30; George Lindgren, Chem. Engrg., Pl. 12; Edward Sturiale, Sub. Assembler-Riveter, Pl. 1; Homer H. Allison, Glen Arm, Md., Pl. 56; Terry Hauser, Mail Service, Pl. 5.

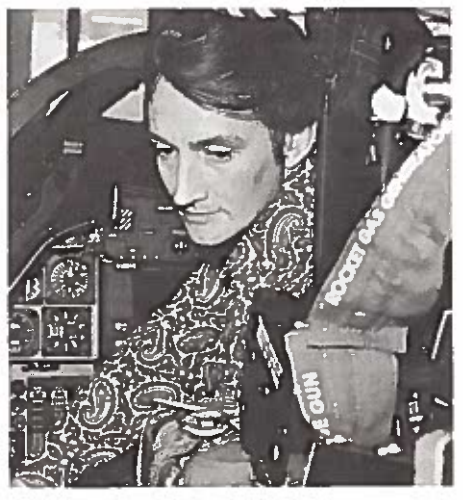
$75 - Kenneth Wendell, Structural Engg., Pl. 1; Bertram Rieger, Final Assem., Pl. 1: Louis Pastore, Sub. Assembly, Pl. 1; Charles Randazzo, Fuse Sub. Assem., Pl. 1; Edward Sturiale. Sub. Assem. MJ., Pl. 1; William McCormick, Wing Final Assem., Pl. 3; Benjamin Stutz, Kenneth Korsgerg, both of Major Assem., Pl. 1; Harold Truran, Prototype, Pl. 1; John Patterson, Wilfred Smith, Sa'vatore Tranchina, William McAlpine, Thomas S. Sharkey, all of Sub-Assem. MJ., Pl. 1.

$50 - James J. Kalman, Frank J. Brown, both of Sub. Assem. M., Pl. 1; Louis Samberg, Plt. Main., Pl. 1; Albert J. Frisbie, Major Assem., Pl. 1; Dominick Ru'lo, John Menell. Steel Pts. Assem., Pl. 2; George Wallace, Robert S. Groeber, both of Sub. Assembly, Pl. 1: Aniel'o Pellegrino, Electron Pkg., Pl. 34: George Zambelas, Simul./Eval., Pl. 7; Meyer Tenenbaum, Displays, Pl. 1; Ivor Frank, Tech. Operations, Pl. 30; Ira Doctor, E2C-Support, Pl. 15; Frank Lourita, Hyd.-Mech. Test, Pl. 14; Raymond F. Amendola, Drop Hammer, Pl. 2; Letson Kinsley, Final Assem., Pl. 1; Joseph Maresca, Struct. Design., Pl. 35; Frank F. Schreiber, Fluid Power, Pl. 1; Morton H. Weinberg, Quality Assurance, Pl. 10; Charles Stahley, F-14 Producibility, Pl. 1.

$25 - Sam Longo and Mike Kazura, Final Assy., Pl. 1; Robert L. Benoit, Contro!s/Mechan., Pl., 35; Winslow Peters, Mech. Systems., Pl. 2.

Ralph Classen

Frank Zahra



Ernest Maines

Thompson to spur expanded Air Force effort

Joe Gavin announced a management move two weeks ago as part of a major bid to put Grumman Aerospace in a stronger competitive position for major Air Force contracts. In naming George Thompson as manager of Air Force Requirements, Gavin, Board

George Thompson

Chairman and President of Aerospace, outlined his new duties this way:

". . . Thompson will report to, and be responsible to, the President of Grumman Aerospace for all Air Force related matters. He will direct all of the effort toward attaining the Corporate goal of making Grumman a viable candidate for the role of prime contractor for major Air Force programs. Toward this end, the Air Force manager will have final approval on all Air Force related activities prior to submission to the President or to the customer. . . . Thompson will report administratively to the director of Customer Requirements." Thompson will continue to act as head marketing representative for Customer Requirements on the Air Force EF-111A program.

It has been some 20 years since Thompson graduated from Stevens Institute of Technology with a degree in Mechanical Engineering and Master's in Industrial Management; and all of that time has been spent by Thompson working in various management, marketing, and engineering slots on a variety of Air Force programs. A former military pilot, Thompson joined Thiokol Chemical Corporation after graduation, spending the first three years in its Reaction Motors Division as an applications sales engineer, project engineer on prototype environmental test equipment, and as test facilities engineer and design engineer.

Later at Thiokol, he was manager of Air Force programs in Washington, assistant manager of its Washington office, and finally manager of the Western District. He joined Grumman in 1965 and has been closely associated with Air Force programs here, as well, especially in the areas of future requirements, budgeting, and future systems.

Grumman has more than $40 million in Air Force space, hardware, research and study contracts at present. Thompson views this as a good starting point in our bid to become a recognized major contractor for the Air Force.

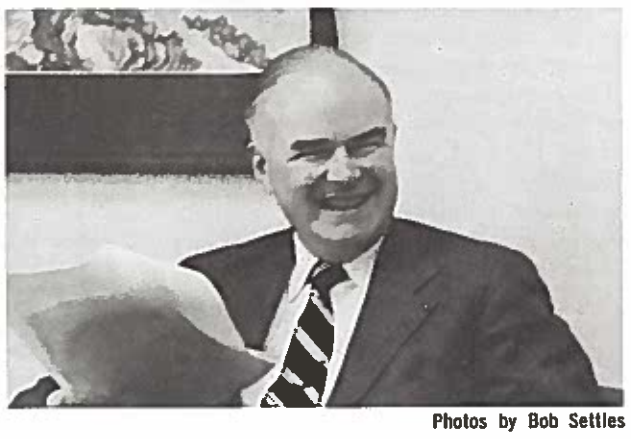
Experts on composites

"We have to get a large number of contracts to give us exposure with our Air Force counterparts in all the disciplines," said Thompson last week. "For example, over the past couple of years, we've had a number of materials research contracts with Wright-Patterson Air Force Base and Grumman has established itself as *the* experts on composite materials. But it took a long, hard pull by Artie August and the people in Advanced Development to achieve that position of recognized technical competence.

"It's no short-term effort, and we must reach that same position in all the other disciplines that go into making up an entire system if we hope to gain recognition as an Air Force contractor. It's long, hard work, a constant effort, and there will be little immediate pay back—but the long-term benefits could be tremendous.

"And Grumman is really in the competition—Joe Gavin proved that when he decided to allocate a percentage of our financial and human resources over a long-term period toward Air Force efforts. You could say that to really go after major Air Force contracts we have to build ourselves a recognized technical launching platform. There are many elements that go into that platform, and we're starting to put them together right now."

Bierwirth expects Grumman to go into 1975 stronger than it came into '74



Photos by Bob Settles

(Continued from page 1)

than going into court and fighting legal battles for the next four or five years.

In retrospect, Clint Towl's proposed solution was the only one that would have permitted Grumman to carry on and try the many things it is now accomplishing, and also assure the Navy that it got what it wanted, too—the F-14 Tomcat. And now I'll finally get to the answer to your question. Although we made that settlement, there was a tremendous job to get done if we were to survive and rebuild. Grumman Aerospace quickly organized and went into its tremendous day-and-night effort that took place from May through December of '73. Unbelievably, Aerospace ended the year essentially on schedule, running efficiently, but most importantly, with regained self-confidence. When you walk around and talk to people in the plants today, you can sense the feeling of pride and accomplishment that just wasn't there a year ago.

The financial results are all there—they bespeak a year of accomplishment, they show a picture of a company that has come back a long way. Our financial figures look good, but still underlying them, of course, are the losses that we anticipated in the tax write-off. Those losses are going to continue to be realized, in fact, until we deliver F-14 No. 134. We have got to go from now through May 1975 before the last of those losses is behind us. Even with all that, there is a different tone and buoyancy to the company that promises the type of future we all had hoped we would achieve.

And we must remember that while the F-14 production battle was going on, the job that was accomplished by the people working on the E-2C, A-6, and EA-6B, and the effort turned in by Grumman people in other subsidiaries of Grumman Corporation produced the profits which are so essential to an organization. All of those people should and do feel the same sense of pride.

PN: You say that these losses will continue through 1975. Are you also saying that it's important that there be no more losses beyond those already anticipated on the F-14?

JB: Yes, vitally important. We estimated what the losses would be through plane No. 134; now we've got to do the job so the losses are no greater. The tax loss carryforward is essentially all used up. The F-14s we will be delivering through plane No. 134 will, in fact, cost us more than we get paid for them by the Navy. The anticipated loss of $205 million was taken on the books in the 1972 statement and an additional $15 million write-off was taken in the third quarter of 1973. But there's a difference between the anticipation of a loss on the books and the actual realization of that loss. The anticipation of a loss on the books affects your reported profits, the actual taking of a loss affects the cash flow of the company. Because we pay more in wages and for raw materials on the F-14 than the Navy pays us for the plane, we lose cash during the period when the losses are actually occurring. We now have to make enough profit on our other products so that when we deliver plane No. 134, we will have enough cash in the company to keep on doing business.

PN: You have mentioned that we must try to find our true sustaining level of effort. What do you mean by that?

JB: Now, in 1974, we have to settle down and operate efficiently on a normal basis so that we can get the job done without asking people to work six or seven days a week, for 12 hours a day. That emergency level of effort is not sustainable in the long term.

"The complaint about the defense business is that it's somewhat static; but in a down period, you don't call it static, you call it steady, and it's wonderful."

PN: In some of your recent talks, you talked about aerospace as being a nice business to be in during the present economic period. What exactly do you mean?

JB: This 1974-75 period—I won't even try to look further than that the way things are—is going to be terribly difficult, not only for the United States' economy, but also for the economy of the world as a whole. European countries and the United States and Japan are all in economic trouble. It's very hard now to anticipate how much of a recession or a depression this is going to create. But aerospace is very attractive when you have a solid order backlog that will keep your business running. The complaint about the defense business is that it's somewhat static; but in a down period, you don't call it static, you call it steady, and it's wonderful. The steady underpinning that the defense business gives to Grumman puts us in a relatively strong position as compared with companies that are wholly dependent on the economic stability or growth of the economy.

PN: You have said in the past that you hoped that Grumman could eventually achieve a 50-50 balance on profits between aerospace and the commercial side. Considering the fuel and economic crises, have your goals for diversification changed?

JB: No, because we need better balance. We won't need to double our size, of course, since the normal profitability after taxes in aerospace is about 2½ to 3 percent on sales and the normal profitability on commercial business is usually about double that. The recession will change the conditions. When a company is in trouble because of a recession, it's not in the position to start or acquire new product lines. If we have a strong business base on the defense side of the house, however, we will have opportunities open to us. The key is to choose our direction well.

PN: How will Aerospace benefit in times of good commercial sales?

JB: If you look at a future where Grumman increases its commercial size and capability, you then create opportunities for the aerospace side of the house, as well. It's obvious that Grumman Aerospace technology can be involved in the new products—that means more engineering opportunities. And depending on the direction our commercial growth takes, there will also be situations in which Grumman Aerospace could produce the new commercial hardware. For instance, Grumman American makes the Gulfstream II but Grumman Aerospace produces a large percentage of the parts that go into the Gulfstream. Or it may well be that some of the people in Grumman Aerospace could go over to the commercial side and get their opportunities as individuals.

PN: It seems as though the present energy crisis hasn't hit all of our commercial ventures with the same sort of a whack. What do you foresee happening in that area?

JB: We have a reasonable ability to look forward

and see what's happening, but you have to take each product line as a separate entity. The Grumman Allied truck business is better off since customers have focused their attention on both the longevity of the product and on the fuel economies. The aluminum body lasts some 20 years on the average and buyers are becoming more conscious of the value of long-term replacement cycles. Because the body is made of aluminum, the Grumman truck gets two miles more per gallon than a truck made of steel. As a result of those two factors, the truck body business in Grumman Allied is very strong at the present time. And its future looks very good. We expanded two plants last year and a fifth plant will open in 1974.

Contrast that with the motorhome business. It has definitely been slowed down by the gasoline shortage. Fortunately, we had neither a large inventory position nor a major position in market. At Montgomery, Pennsylvania, we're still making some motorhomes, but other parts of the plant are being converted to produce Grumman's medical emergency vans and small buses.

The order backlog at Pearson Yachts went through the roof when the energy shortage hit. People who wanted to go places on the water suddenly decided that they could get there with wind power, and Pearson was the product they wanted to go on. The order backlog at Pearson is now higher than at any time in the history of the company. The same is true of canoes. The canoe business had a great year in 1973. And 1974 looks even better.

The energy crisis has had no real impact on Grumman Data Systems. GDS commercial diversification has grown very nicely over the past three or four years, but 1974 is the year in which we expect it to really step up in a major way. We expect the volume outside of the Grumman in-house business to increase by about 2½ times in 1974. If we go into a recession, two factors will affect Grumman Data Systems' commercial business. There will be less business to do—and GDS' ability to grow may be somewhat stultified. On the other hand, companies that are short of cash will be looking around for a way to get their computer work done without adding to their company's financial obligations either through lease or the purchase of new computers. That factor may more than compensate for the lower level of total available business.

PN: We try to diversify in Aerospace so that we're not a one-product company. How are we going to diversify in the commercial area to keep pace with Aerospace?

JB: There's one general thing that we've talked about—the desire to get to the point where 50 percent of total corporate profits comes from the commercial side of the house. We know that from June 1975 on, Grumman Aerospace is going to be in the new F-14 contract. On top of that, there will be the Iranian contract, and, perhaps, others. We know that Grumman Aerospace, once it's through Plane No. 134 in the F-14 area, will have its profitability enhanced because all of its products will then be profitable. At the same time, we're getting growth on the commercial side. When you look at 1975, it's going to be very difficult for the commercial side of Grumman to gain at all in comparison with the progress we see for Grumman Aerospace. This means that if we really want to increase the percentage of income that comes from commercial business, we've got to add new commercial business—and something fairly substantial at that. I'm talking about acquisitions, of course, but these should wait till we are financially stronger and the opportunities are easier to perceive.

PN: The Iranians are presently involved in negotiations to buy 30 Tomcats and Yugoslavia has purchased Ag-Cats in past years. What else is going on internationally?

JB: The job of building Grumman's international competence is a major job that will take at least two or three more years. Grumman International, which is charged with the basic responsibility for all Grumman products outside the United States, has made a great start. Grumman has always sold some products outside the United States, but being an exporter is

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not the same as being in international business. What we have to do is not only build up our exports, but we must also establish ourselves in business in the countries where we want to do business.

For instance, if we want to be in business in Brazil, we should establish ourselves with a Brazilian company and be engaged in something that is important to the Brazilian economy. Grumman management living in Brazil can then do its best to help us export the Grumman products that Brazil needs. F-14s are being sold to Iran, but the team that's going to Iran has the assignment to put Grumman into business there so that the full spectrum of Grumman products will be known and can be sold to Iran when the need is there. This could mean Cleveland produced Trainers, medical emergency equipment vans, and so forth. Right now we're discussing the possibility of putting a computer center in Teheran for the use of Iran Air, the government-owned international airline. We may well end up with a company in Iran that is jointly owned by Iranian investors and by Grumman that will produce products based on Grumman technology. We have to establish ourselves as corporate citizens in Iran and be responsive to what the Iranian government wants done in Iran. We can't do everything, of course, but there are many things we believe we can do.

PN: This sounds like a long-range project. Bob Townsend heads Grumman International, but international sales is kind of your bailiwick, too, isn't it?

JB: I used to be involved in international business and Bob and I have spent many hours talking about what we can do and how we should go about doing it. It's not an easy thing to do. Take, as an example, the job that Tom Brancati has as senior representative of Grumman in Iran. When he's been there awhile and is thoroughly acclimated, he should know the various officials in the government well enough so that he will know if there's anything new for us to do. He should know a broad spectrum of people in Iranian business so that if we have to find a partner, he'll find us the right one; he should know the economics of the Middle East well enough so that he'll know *where* and *when* we can fit in any project—it's quite an assignment when you think about it. And a fellow just doesn't get there overnight.

People around Grumman are being asked to go to different countries. If they do the job right, they should have some real adventures for themselves, and we should create a substantial business base for Grumman outside the United States. *This isn't the export of jobs*—we're not going to be doing things in these countries that we could do here. We'll be doing things in these countries that it makes sense to do there, and we'll be exporting products made here through the efforts of the people overseas.

PN: Do you see international business as another form of diversification?

JB: Yes, in a way it is. It gives you new customers for your regular products and by being involved in different economies we modify the effects of change in the U.S. economic cycle.

PN: We've touched on other subsidiaries, but there are some—Paumanock Leasing, for one—that are practically unknown. Would you touch on that aspect of the business?

JB: Paumanock Leasing is an interesting effort. A lot of products are sold by leasing to the customer rather than by direct sale. Grumman Allied has leased in the past but there was no total corporate effort. So we created Paumanock Leasing and had it buy out the leasing operations of Grumman Allied. We're trying to make this service available to all parts of the company. By the end of 1974, we expect to have on lease an assortment of yachts, trucks, Ag-Cats, health equipment, and perhaps, even one or two MASSTAPE units. If we ever get to the point where people want to lease Gulfstreams—they cost several million dollars apiece—we're going to be in a different financial game than we've been in to date. Paumanock Leasing is not only profitable but it is also often a great assist to the sales force. Paumanock Leasing will even be useful to Grumman Aerospace when it gets involved in some of the new commercial products such as the Stress Wave Riveter.

PN: How are Grumman Ecosystems and Grumman Health Systems doing?

JB: Their operations were not yet profitable because both are still in their development stage, but a great deal of effort is going into establishing themselves in those areas. Both Ecosystems and Health Systems can be successful and we look to their assisting the corporation by attaining profitable operations in the near future—and while doing this, we also expect them to provide our society with a number of services which will prove beneficial to the general health and ecological betterment of the nation.

"One of the great strengths of Grumman is that it is a truly human company . . . it cares about the people who work in every part of the corporation. If we lost that we would lose the greatest strength and the greatest asset that Grumman has."

PN: Grumman is becoming a multi-industry company, and someday it may become a multi-national company. Grumman has always been known for its concern for the individual employee. Is there any chance that this expansion into multi-industry and multi-national areas might not bring about a change in this operating philosophy?

JB: Absolutely not. One of the great strengths of Grumman *is* that it is a truly human company. . . . it cares about the people who work in every part of the corporation. If we lost that we would lose the greatest strength and the greatest asset that Grumman has. And there's no reason why being involved in more products or more locations should make a difference. You've got to treat people the way you'd like to be treated if somebody else were making decisions that concerned you. If a company treats people properly, you would expect to have their support and their best efforts. If you don't, then very quickly the company would become a place in which it's not much fun to work anymore.

PN: We earned $4.15 a share in 1973 as opposed to a minus $10.26 a share in '72. If we're doing that well, and since inflation is a problem in the U.S., why is it that just recently Joe Gavin said there would be no cost-of-living adjustment in Aerospace, and you have also indicated that this would be true in other areas of the corporation as well?

JB: That's a tough question and it has to be asked. In 1973, I understand, there were some pretty good merit raises in Grumman Aerospace and all other subsidiaries. There's a pretty good merit raise pro-

(Continued on page 8)

Fuschillo's advice: Don't pass your opportunity bye

Today's Grumman is much different from the Grumman of yesterday. In the beginning, a handful of men worked on Navy planes in an old garage—now Grumman is a large corporation turning out products ranging from planes to fire hose nozzles.

This growth has brought in people of different religions, background, and races, but with these differences Grumman has not suffered, says Charlie Fuschillo, manager of Personal Development in the Personel Department. He puts it this way: "One element of Grumman is to recognize the ability and the worth of each individual in the company.

"The Job Opportunity Program (Job Opportunity Bulletins) is one way that Grumman tries to help its employees," continues Fuschillo. "We believe the program to be a great help to both the individual employee and the company. It guarantees that the most qualified person can move into a higher position of responsibility."

How does JOB work?

Whenever a job opening exists in Grumman Aerospace it is posted on bulletin boards throughout all Grumman facilities on Long Island. The job remains posted on the boards for a week. Employees who believe that they are qualified for the job may contact the Personnel Department for a personal interview.

Does it work? In 1973, 627 people were upgraded or transfered. Fuschillo and his staff of five are concerned with people achieving satisfaction in their jobs. "We try to help people find jobs that they will enjoy. We want to help put capable people on jobs within the company."

What about SPO?

Another phase of Personal Development is Supervisory Promotion Opportunity (SPO). Whenever a supervisory opportunity occurs, it is also posted, as are the JOB bulletins. These listings are twice a week. Interested employees file a Supervisory Review Request form. These forms are available at all Employee Services offices. The Personnel Department keeps these forms on file for a year. "There is a continuous review of these forms as supervisory openings occur so that each employee, if qualified, may be considered and contacted. Last year, 227 employees became supervisors under the SPO program."

How are you sure that you will be considered when a job comes along? Skill codes are set up and put on computer tapes for every employee. These skill codes give information of the training and experience of each employee. This saves time when a search for an applicant is being made.

The supervisor plays a role also. "A supervisor," says Fuschillo, "has the responsibility to encourage his people to work toward certain goals. This can help an employee grow on the job and may help him or her get a better job. Optimum utilization of human resources is the name of the game in "Personal Development."

So the next time you pass by a bulletin board, stop to see what job opportunities are available. If there is one that you are interested in, contact Personal Development on Ext. 1523. Think about it.

Charles Fuschillo

Correction . . .

In a front-page story in the last issue of Plane News, Joe Gavin, Board Chairman and President of Grumman Aerospace, was quoted as having said: "I don't think there's any way that we can bear the inflation that we're in right now."

The sentence should have read: "I don't think there's any way that we can beat the inflation that we're in right now." We're sorry for the error.

plane GRUMMAN news

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Salute for service. Group gathered at Stuart facility in Florida recently to honor LT. John McDonald for long service in Albatross included (L to R): Carl Alber, Kirk Smith, Art Anderson, Bill Bedell, Vice President Jim Zusi, Mrs. John McDonald, LT. McDonald, Cdr. Brown, General Manager Art Melrose, Capt. Shubert, LT. McPherson, Petty Officer Howell, LT. Dutton, LT. (JG) Heins.

He's saying goodbye to an old friend

On Dec. 29, 1972, an Eastern Airlines jet crashed in the Florida Everglades. Most of the injured passengers had to be removed by four Coast Guard helicopters which were being vectored to and from the crash site by Lt. John McDonald flying overhead in a Grumman Albatross HU16E. McDonald and the Albatross crew acted as the on-scene-commander and coordinated the movements of the Coast Guard, Army, Air Force and police rescue craft.

McDonald enlisted in the Coast Guard in 1952 and worked his way up to Aviation Radioman First Class (AL1) before entering Officer Candidate School and subsequently Navy Flight Training. While stationed at NAS, Miami, in 1953, McDonald was a lookout on the Albatross which located seven marines who had ditched their aircraft in the Atlantic Ocean. More recently, McDonald was commander of the Albatross which flew to a remote landing strip in the Bahamas to evacuate critically injured Seaman Walter McKissick in time for Homestead AFB Hospital doctors to save his life.

This year, after more than 20 years' association with and over 6,000 flying hours in the Albatross, McDonald is retiring from active duty. Congratulations, John, on the conclusion of one distinguished career and the beginning of another.

OBITUARIES

CHARLES STANLEY of Quality Control, Plant 87, died January 18 at the age of 63. He had been with Grumman over 31 years and lived at 7916 West 79th St., Playa del Rey, California.

WILLIAM H. WRAGE JR. of PPO - E-2, Plant 15, died February 15 at the age of 38. He had been with Grumman Aerospace since 1967 and lived at Sylvan Lane, Miller Place.

FRANK E. PLATT of Small Parts Fabrication, Plant 2, died February 15 at the age of 61. He had been with Grumman Aerospace since 1968 and lived at 58 East Avenue, Glen Cove.

WILLIAM H. BAEHR of P/S Digital Engineering, Plant 25, died February 19 at the age of 52. He had been with Grumman Aerospace since 1969 and lived at 28 Lawrence Street, Uniondale.

JAMES FOISSET of Transportation, Plant 20, died February 21 at the age of 56. He had been with the company since 1951 and lived at 43 Scudder Ave., Northport.

JOHN L. ROSCH of Sub-Assembly, Plant 1, died February 26 at the age of 54. He had been with Grumman Aerospace since 1943 and lived at 8 Pine Tree Rd., Farmingvile.

Grumman keglers lead opening tourney round

It's been quite a few years—not since 1968 in fact—that the Grumman men's bowling varsity has managed to win the L. I. Industrial Bowling Tournament. But this year, recapturing the crown seems a little more than just a dream. After last Saturday's opening round, Grumman leads the pack with 2,801 pins.

Their lead is slim though because four other company teams are close behind: Airborne, 2,778; National Bank of North America, 2,777; AMF and Sperry, both at 2,723.

The GAA-sponsored tourney consisting of 16 industrial teams is a scratch event for five-man squads, with three games bowled in each of the four rounds with total pins for the 12-games deciding the open championship. In addition, an incentive trophy is awarded to the team that bowls the most pins over its established average. After the first round, Sperry is leading the incentive contest with 71 pins above its average, and Grumman is a strong second with 64 pins.

The Grumman attack was evenly distributed among the varsity keglers with Ed Hilbert, 234-603; Frank Tucholski, 201-212-599; Richie Neste, 196-550; Cliff Hartnack, 189-513. Tom O'Connor after bowling one game became ill, and Don Vasquez of the reserve squad, stepped in and contributed games of 194 and 184.

The remaining three rounds of the tourney will be played March 9, 16 and 23 at the Mid Isle Lanes in Hempstead beginning at 8 p.m.

Matson burns alley for 733

It's crushing enough when the team you're bowling against has a superstar, but when a so-called average kegler zaps the pins for a 244-243-246-733 series, you know you've got a bum rap. That's what happened in the Rocket league recently when Art Matson, averaging 175, punished the pins for three games over 240. The Ball Benders wished he picked another week for his supershow.

Superstars on the league alleys always shine most when your team is knocking down wood against them. Monica Wojtyniak outshone her fellow keglers of the Syosset Mixed with a 192-213-199-604 series, while the Prunes (no snickering, please) broke the old team record with 2,310. Other league highlights: Anna Wicks, 188-501; Erick Bunzel, 210-202-605; Rob Ogilvie, 235-222-617.

Over the past three weeks, Fred Dick of the Gold Mixed league has formed a habit throwing 600 series, 237-211-629; 223-603; 245-633. On the same alleys: Gene Kagiwada, 211-591; Ruth Dick, 184-496; John Ketcham, 221-578.

On the Trader league alleys, Frank Gilmore knocked down enough wood to tally a new high game record of 278. Jim Childress was just 20 pins behind with a 258. Other action: Frank Nelson, 226-220-632; Bill Soltan, 217-584.

Frank Nelson did all right for himself in the Masters league with a 255-840 four-game series. Fellow keglers didn't do too badly either: Don Vazquez, 245-819; John Betterino, 222-816; Ray Zeller, 224-805, Dick Spalding, 254-822.

Highlights in the other leagues are: *Black* league: Ted Dija, 225-607; Jim Szegfu, 258-201-630; Walt Stehlin, 227-224-603. In the *Aerospace* league, Ed Cramer, 212-590; Tom O'Conner, set the new series high with 235-639; Oris Guido, 212-226-629; Bill Swinson, 210-231-613. On the *Red* league alleys, Kevin Kremler, 212-557; Russ Cox, 212-556; Herb Pirkl, 218-567.

Out in the *Outpost* league: John Vindett, 245-627; Joe Avanzato, 235-583; Manny Nash, 206-583. In the *Hawkeye Mixed*, Arleen Schwemmer, 208-507; George Moritz, 215-566; Maude Schulz, 203-479; Andy Michalowski, 236-561. John Magliano, 200-218-594. In the *Woodbury Mixed* action, Ruth Carr, 221-494; Martha Juppe, 212-552; Ray Dunwoodie, 212-551. And in the *Patchogue Mixed*, Joan Burgess, 212-479; Val Lindstrom, 191-532; Gene Burgess, 219-589.

Pistoliers find home on range

The Grumman pistoliers are finally on target. In the Industrial "expert" league, the Grumman "D" squad defeated Kollsman Instrument 1062-937 with Dave Rice firing 270, Al Berka, 276, Art McKee, 260, Jerry Minerva, 256. They now sport a 8-1 record. The Gold team defeated IBM, behind the sharpshooting of Ron Trenkner, 281, and Nick Evanglides, 279.

In the Sharpshooter division, the "C" squad squeaked by Pan Am, 1000-995. Mike Baumgarten, was high man with 276. In their next match, they took on their fellow sharpshooters, the Grumman "E" team, and wiped them out, 984-810. Baumgarten was high at 268 for the victors.

A week later, the tide turned for the "C" team as they succumbed to fellow Grummanites on the "B" squad, 914-991. Mort Weinberg, Ray Nordmark, Bill Boyce, and Doug Crooks zeroed in on the target for 249, 248, 247, and 247, respectively.

Fore!

It might have been a drudge this past winter not seeing the sun rise until 8 a.m., but in the long run, it's a blessing for golfers. Mike Cherry of GAA says that Bethpage State Park is ready to begin twilight golf as early as March 25, and Mike advises secretaries of all GAA golf leagues, as well as members of the Engineering and Tigercat leagues, to contact him right away to begin organizing league play.

The call is out for night shift golf buffs interested in joining an intramural golf league. Contact George Rocchio, Ext. 2441, or Jerry Paul, Ext. 84043, after 6 p.m.

Women's league

Lady golfers—veterans and newcomers—it's time to sign up for league action. There will be a ladies golf league meeting this coming Wednesday, March 13, in the Plant 30 cafeteria at 5 p.m. If you played last year or wish to join the crowd on the links this year, you must sign up at this meeting. If you can't make it but would like to join the league, make sure you contact Elaine Merritt, Ext. 84396.

Keglers needed

A new Grumman bowling league is born! The new mid-winter league is slated to begin play in September 1974 at the Rocky Point Bowl. Plans are still up in the air, but depending on the number of keglers interested, there may be four or five man teams, with a maximum team average of 825 for 5-man squads, and 660 for 4-man teams. Play will begin at approximately 6 p.m. Interested teams or keglers should contact Joe Wickel, Ext. 821, or Larry Burke, Ext. 626.

Team's hungry for hoop title

The Grumman Hellcats are greedy this year. They don't want to share another Industrial league championship with the Nassau County Police. The Nassau cops don't want to either. In the two showdowns between the contenders this year, the police hoopsters have manhandled the Hellcats, 79-66 and 95-82.

The first battle took place in the Nassau Coliseum before approximately 500 fans. Luckily, it was only an exhibition game, and it doesn't go down in the books.

The season opener in the Industrial league pitted the Grumman team and the police again. This time going with the regulars all the way, coach Knopf's team still ended the game trailing 13 points.

But the varsity finally put it all together and trounced their second opponent, LILCO, 62-44. Top gunners for the winners were Larry Tarvin, 22; Eddie Krol, 13; and Frank Quarto, 12.

On their second trip to the Nassau Coliseum, the Hellcats held nothing back while defeating LILCO again, this time by 90-73. Tarvin led the scoring with 19 points, and Jim Cruthers and Walt Gleich stood out on defense. Rudy Green kept the winning streak going by sinking 33 points and pulling down 15 rebounds in a 70-59 victory over Hazeltine. Don Kalland chipped in 17 points and grabbed nine off the boards.

In the Glen Cove league, the varsity has its feet firmly planted in the number one slot with a record of 9-1. Against Pub Ivanhoe, Lee Gendron pumped in 18 points in the 95-70 victory. The offense as usual was well balanced with Cruthers, 12; Kalland, 12; Frank Quarto, 11; Gleich, 10; and Mickle, 10. In their latest victory, the Hellcats rolled over Stroppels, 101-72. Green was high man with 18 points. The varsity hoopsters retain the lead in the league by 1½ games with four games remaining in the season play.

Varsity bowls second best

Even though the Grumman bowling squads entered in the 25th annual Sperry Industrial Jamboree fell 212 pins short of capturing first place, it did prove that the Grumman varsity—men's and women's—are going to be strong contenders in this year's industrial bowling tourneys.

The Nassau County Civil Service Employees Association walked away with top team honors, but three Grumman keglers won individual awards. Meg Sheridan bowled high ladies series with 142-212-225-579. Chin Thompson was high game winner for ladies with 225, and Don Vasquez won the high series for the men with 172-235-232-639.

The women's varsity led by Chin Thompson, a varsity veteran of 23 years, will be competing in the 31st L.I. Industrial Women's Bowling Tournament sponsored by Fairchild Republic on April 6, 13, 20. The tourney will be played at the Mid Isle Lanes in Hempstead on Peninsula Blvd. at 8 p.m. Other members of the varsity foursome are Meg Sheridan, Pat Ogilvie, and Arleen Schwemmer. Alternate is Joan Parbus.

The Mixed Industrial Tournament sponsored by Pan Am and slated for March 30 at the Mid Isle Lanes at 8 p.m., will consist of the top two bowlers of the men's and women's varsity.

More on Bierwirth, outlook for 1974

(Continued from page 5)

gram for '74, a better one, I am told, than there has ever been in the history of the company. We should recognize that in each merit raise there is a factor for merit and a factor that recognizes the effects of inflation. We are doing the best we possibly can with what dollars are available.

But consider this, too: We all got paid in 1972 when we lost all that money.

Inflation is certainly a very serious problem. There's hardly anyone who goes home at night and doesn't realize that it's causing difficulties everywhere. It's important that we recreated job stability, but I think that we have to recognize that Grumman *has got* to rebuild its financial stability, too. Grumman had a net worth at the beginning of 1973 of about $70 million. And in a way, it's incredible that we were able to have over a billion dollars in sales in 1973 on that kind of net worth. We were running on a pretty thin margin for error; one good sneeze and we'd have been in trouble. By rebuilding the company, however, we will be able to recreate a financial strength in Grumman that will put us back in a position where we can survive if something does go wrong. We certainly don't expect anything like that to happen, but a company has to be in a position where it can survive if the unexpected happens.

PN: We've talked about the improvement in earnings but we haven't touched on the fact that Grumman, after an absence of 21 months, began paying a dividend again earlier this year. Will you comment on what that could mean for the future?

JB: We paid a 15 cent dividend in December and we will now be paying a second dividend of 15 cents in March. After last year's earnings, some of our stockholders felt that we should pay more, but the same principle holds true on dividends that holds true on every other aspect of Grumman's financial picture. We're not in a position to be paying out a substantial percentage of our earnings and won't be until we recreate the financial strength that Grumman needs. This moderate dividend to our shareholders makes sense. A healthy stock is an important thing to a publicly-owned company and dividends are a part of the picture that helps create a healthy and attractive stock.

PN: About a year ago, before a settlement on the F-14, you and Clint Towl may have had your doubts about the future of Grumman. Now that the F-14 crisis has been settled, Grumman has been immediately hit by an energy crisis, gas shortage, materials shortages, and rising prices. Considering all of these adverse economic factors, what are you looking for in 1974? How would you estimate business to be in comparsion to 1973, for example?

JB: We're looking for a good year. And we're going to go into 1975 stronger than we came into 1974. We're a growing company. There are a great many things going on, all of which are positive. It's perfectly true that it's going to be a tough economic year for the United States and that the energy shortage is a problem. These are problems for every company. But these are problems that can be anticipated and lived with. Even so, I believe that Grumman's future looks brighter every month. There are so many things that are going on now at Grumman, and so many plans for the future, there are some days that I find it hard to have the patience to wait for these things to come to be.

Gavin: Must get on with the job

On February 20, Newsday reported that some Grumman Aerospace employees and contractors were under investigation for alleged kickbacks and other financial improprieties.

When reports of the investigations first appeared in local papers on Wednesday, February, 20, Joe Gavin, Board Chairman and President of Grumman Aerospace, released the following statement on NEWSBOARD early that morning so that Grumman Aerospace employees would be kept abreast of the situation.

"Earlier today, it was reported in the press that investigations are being conducted into alleged improper activities of certain individuals and suppliers in the procurement of publications for Grumman Aerospace.

"Evidence of those improprieties was first uncovered by our own Grumman auditors more than six months ago. We promptly brought this information to the attention of the U.S. Naval Plant Representative, the Federal Bureau of Investigation, and the United States Attorney's office. In the intervening months since our initial discovery, we have been cooperating fully while working with these Government agencies in an investigation to determine the full extent of these improprieties. We also took immediate steps within the company to eliminate such actions and to prevent other occurrences in the future.

"I am shocked and dismayed, as I'm sure you are, that the alleged improper activities of a relative handful of our employees and suppliers should reflect adversely on our company and the many hardworking and dedicated people, including those in the Publications section, who have helped make the name Grumman a very respected one in the Long Island community and the nation.

"But we must get on with the important job of delivering the necessary publications to our customers. We are actively increasing our own in-house capability in that area through the hiring of more personnel. In addition, I urge all of you to join with me in directing our full energies toward the continuing delivery to our customers of the quality, on-time products they have come to expect from us.

"It would be inappropriate for us to comment further on the details of the investigation since the case is now in the hands of the FBI and the U.S. Attorney. Should there be any other Grumman personnel who can assist in this investigation, we encourage them to do so."

In future issues, Plane News will report any further developments in the situation.

Fighter chief. **Capt. Bill Knutson, skipper of Fighter Wing 1 at the Naval Air Station, Oceana, Va., was on the West Coast a couple of weeks ago and used the opportunity to pilot the Grumman Tomcat for the first time. After the flight at Miramar, Calif., Captain Knutson displayed 'thumbs up' as he taxied back to the flight line.**

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Bidding on NASA Shuttle support job

(Continued from page 1)

- Avionics systems engineering support
- Mission planning, mission design and software formulation
- Computer systems and software integration systems engineering support
- Crew procedures and flight planning.

The Grumman proposal was submitted on January 24 and oral discussions with JSC were on February 14. Competing bidders are TRW, McDonnell-Douglas, Boeing and Martin-Marietta.

While the results of the bidding are expected sometime this month, no one can say for sure what the outcome might be. At Grumman, though, an atmosphere of optimism prevails. Bischoff and his staff of engineering managers are already doing some long distance house-hunting in the Houston area in anticipation of a move.

"At this point," Bischoff adds, "we are very optimistic about being awarded the contract and we are looking forward to the move to Houston for the opportunity to assist NASA in the next steps of the Shuttle program."